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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER	
TRUONG, CAM Y T	
ART UNIT	**PAPER NUMBER**
2162	

DATE MAILED: 01/26/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/073,245	KATAOKA ET AL.	
	Examiner	Art Unit	
	Cam Y T Truong	2172	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 August 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-47* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-47* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. Applicant has amended claims 1, 7, 13, 19, 25, 32, 39, 40 and 47 in the amendment filed on 8/23/2004. Claims 1-47 are pending in this Office Action.

Applicant's arguments filed 8/23/2004 have been fully considered but they are not persuasive.

Applicant argued that Burrows does not teach the claimed limitation "compressing each of the sections, where each includes data and index data and the index data is different form and corresponds to the data and is used to search or retrieve the data". Burrows teaches as shown show in fig. 7, the system compresses words of a file. In order to identify pages of interest among the millions of pages which are available on the Web, a search engine 140 is provided. The search engine 140 includes means for parsing the pages, means for indexing the parsed pages, means for searching the index, and means for presenting information about the pages 200 located. The index data structure includes a plurality of entries. Each of entries is corresponds to occurrences of the unique portions of pages in the database. This information shows that each index entry is different from and corresponds to each portion of pages and each word is compressed. Each word is represented as a section (col. 3, lines 60-67; col. 2, lines 7-12);

Applicant argued that Malik does not teach "compressing each of the sections using a plurality of compression parameters to obtain a compressed file". Malik teaches compressing data including means for separating the data file into plurality of segments, means coupled with the separating means for providing a plurality of code words, each

of the plurality of code words corresponding to a unique segment of the plurality of unique segments. Once the source data file has been compressed using the conventional method 50, the conventional compressed file, which includes a code word for each segment or subsegment, can be stored on the storage 16 or the memory 14 which may include a variety of devices such as a floppy disk (col. 3, lines 10-67; col. 7, lines 11-17; col. 11, lines 1-15).

For the above reason, examiner believed that rejection of the last office action was proper.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 6, 7, 10, 12, 13, 16, 18, 19, 22, 24, 25, 28, 30-32, 35, 37-40, 45-57 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows (USP 6078923) in view of Malik et al (USP 6438556).

As to claims 1, 7 and 13, Burrows teaches the claimed limitations:

"dividing both data and index data into a plurality of sections" as parsing pages and the index data structure into portions (fig. 2, col. 3, line 65, col. 4, lines 35-37; col. 12, lines 20-25);

"Wherein the index data is different from and corresponds to the data and is used to search or retrieve the data" as in order to identify pages of interest among the millions of pages which are available on the Web, a search engine 140 is provided. The search engine 140 includes means for parsing the pages, means for indexing the parsed pages, means for searching the index, and means for presenting information about the pages 200 located. The index data structure includes a plurality of entries. Each of entries is corresponds to occurrences of the unique portions of pages in the database. This information shows that each index entry is different from and corresponds to each portion of pages (col. 3, lines 60-67; col. 2, lines 7-12);

"where each of the sections comprises the data and the index data, and the data comprises at least one of text data, image data, and audio data" as each index entry includes a word entry if the indeed entry represents a compressed encoding of a unique portion of information sequentially parsed from the database. Pages or information include textual information, graphics, audio signals. This information means that each portion of information or pages includes information and the index entry (col. 2, lines 14-18; col. 3, lines 3, lines 40-45).

"compressing each of the sections using a plurality of compression parameters to obtains a compressed file" as shown in fig. 7 , the system compresses words of a file. One file stores a portion of the compressed data structure by using Huffman or Lempel-Ziv codings which are represented as compression parameters (col. 14, lines 13-15; col. 12, lines 14-18).

Burrows does not explicitly teach the claimed limitation "wherein the compressing is performed using the same compressing process for each of the sections; storing the compressed file in a storage medium together with address information and compression parameters of the sections after compression".

However, Burrows teaches the common data structure includes a compressed index data structure, and a sampled index data structure. The index structure includes index entries referencing a database of records, each record is stored at a unique address (col. 2, lines 3-7). Malik teaches compressing data including means for separating the data file into plurality of segments, means coupled with the separating means for providing a plurality of code words, each of the plurality of code words corresponding to a unique segment of the plurality of unique segments. Once the source data file has been compressed using the conventional method 50, the conventional compressed file, which includes a code word for each segment or subsegment, can be stored on the storage 16 or the memory 14 which may include a variety of devices such as a floppy disk (col. 3, lines 10-67; col. 7, lines 11-17; col. 11, lines 1-15). Malik also teaches the method 100 compresses a data set. The data set is broken into segments, via step 102. In a preferred embodiment, each segment has the same length. A unique code word is generated for each unique segment of the segments, via step 104. As more code words are generated, the length of each code word may increase when all combinations for a particular length code word have been used. In a preferred embodiment, the length of each code word is increased by a small integral number of bits, for example four bits, each

time longer code words become needed. Also in a preferred embodiment, step 104 includes generating a dictionary indicating the correspondence between each unique code word and the unique segment it represents. A representation for each of the segments is provided, via step 106. The above information shows that each segment of a data set is performed using the same method 100. The method 100 is represented as the same compressing process (col. 5, lines 5-21).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of storing compressed file includes a code word for each segment or subsegment into a floppy disk and using the method 100 to compress segments of data set to Burrows's system in order to allow users to search/retrieve compressed file quickly without downloading compressed file from Internet, save all information when the system is corrupted and to save time for compressing files within a system.

As to claims 4, 10, 16, 22, 28 and 35, Burrow does not explicitly teach the claimed limitation "wherein said compressing step includes identification information of the compression parameters in control information of each section". Malik teaches that each unique code word is generated for each unique segment of the segments. Each unique code word is represented as each compression parameter (col. 5, lines 10-20).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of each unique code word is

generated for each unique segment of the segments to Burrow's system to identify correct portion of data to compress.

As to claims 6, 12, 18, 24, Burrows does not explicitly teach the claimed limitation "expanding the compressed file which is read from the storage medium by a driver software which is independent of an application software of a computer". Malik teaches once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14 further accessing by users. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an independent application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14 for further accessing by users in order to allow a user can read or view a portion of data.

As to claim 19, Burrows teaches the claimed limitations;

"a region storing a compressed file which is divided into a plurality of sections which are compressed using a plurality of compression parameters" as that the data

structure 71 maps the compressed entries (words and locations) onto a physical media of the search engine 140, e.g., the memories 144 and disk 146 of FIG. 1. Each location of entries or words is presented as an index data. In addition to compressing with software procedures, the compressing could also be performed by hardware means, using, for example, Huffman or Lempel-Ziv codings. The above information implies that the system uses Lempel-Ziv codings to compress entries and locations of entries. Lempel-Ziv codings are presented as plurality of parameters (col. 12, lines 20-30);

"wherein each of the sections comprises both data and index data, where the index data is different from and corresponds to the data, and the data comprises at least one of text data, image data, and audio data and the index data is used to search or retrieve the data" as col. 3, lines 60-67; col. 2, lines 7-12).

Burrows does not explicitly teach the claimed limitation "the same compressing process for each of the sections, a region storing address information of the sections and the compression parameters thereof."

Burrows teaches the common data structure includes a compressed index data structure, and a sampled index data structrure. The index structure includes index entries referencing a database of records, each record is stored at a unique address (col. 2, lines 3-7). Malik teaches compressing data including means for separating the data file into plurality of segments, means coupled with the separating means for providing a plurality of code words, each of the plurality of code words corresponding to a unique segment of the plurality of unique segments. Once the source data file has

been compressed using the conventional method 50, the conventional compressed file, which includes a code word for each segment or subsegment, can be stored on the storage 16 or the memory 14 which may include a variety of devices such as a floppy disk (col. 3, lines 10-67; col. 7, lines 11-17; col. 11, lines 1-15).

Malik also teaches the method 100 compresses a data set. The data set is broken into segments, via step 102. In a preferred embodiment, each segment has the same length. A unique code word is generated for each unique segment of the segments, via step 104. As more code words are generated, the length of each code word may increase when all combinations for a particular length code word have been used. In a preferred embodiment, the length of each code word is increased by a small integral number of bits, for example four bits, each time longer code words become needed. Also in a preferred embodiment, step 104 includes generating a dictionary indicating the correspondence between each unique code word and the unique segment it represents. A representation for each of the segments is provided, via step 106. The above information shows that each segment of a data set is performed using the same method 100. The method 100 is represented as the same compressing process (col. 5, lines 5-21).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of storing compressed file includes a code word for each segment or subsegment into a floppy disk and using the method 100 to compress segments of data set to Burrows's system in order to allow users to search/retrieve compressed file quickly without downloading compressed file from

Internet, save all information when the system is corrupted and to save time for compressing files within a system.

As to claims 25 and 32, Burrows teaches the claimed limitations:

"address parameters, and a compressed file, and original file being divided into a plurality of sections" as parsing pages and the index data structure which is compressed, into portions. Wherein Pages are associated with addresses. Thus when parsing pages, the system has included address parameters (col. 3, line 65, col. 4, lines 35-37; col. 12, lines 20-25, fig. 9);

"compressed for each section using the plurality of compression parameters so as to obtain a plurality of section data forming the compressed file and address information corresponding to a plurality of sections" as compressing data structure which has plurality of portions by using Huffman or Lempel-Ziv codings to form compressed file. Each page of database has an address i.e., URL. To retrieve pages, a user need to enter addresses of web pages. This information shows that the system has included address parameters to retrieve pages corresponding to entered addresses by a user. Pages are represented as sections. URL is represented as address information (col. 12, lines 10-20; col. 14, lines 12-17; col. 3, lines 50-67);

"wherein each of the sections comprises both data and index data, wherein the index data is different from and corresponds to the data" as in order to identify pages of interest among the millions of pages which are available on the Web, a search engine 140 is provided. The search engine 140 includes means for parsing the pages, mans

for indexing the parsed pages, means for searching the index, and means for presenting information about the pages 200 located. The index data structure includes a plurality of entries. Each of entries is corresponds to occurrences of the unique portions of pages in the database. This information shows that each index entry is different from and corresponds to each portion of pages (col. 3, lines 60-67; col. 2, lines 7-12);

"and the data comprises at least one of text data, image data, and audio data, and the index data is used to search or retrieve the data" as each index entry includes a word entry if the indeed entry represents a compressed encoding of a unique portion of information sequentially parsed from the database. Pages or information include textual information, graphics, audio signals. This information means that each portion of information or pages includes information and the index entry (col. 2, lines 14-18; col. 3, lines 3, lines 40-45).

Burrow does not explicitly teach the claimed limitations "the same compressing process for each section, a reading step which accesses a storage medium which stores a plurality of compression parameters, and an expanding step which expands the section data read from the storage medium by said reading step using the compression parameters corresponding to the section data". Malik teaches storing compressed file, which contains each code word in the portion of the compressed file in storage 16. The appropriate portions of the compressed file are then accessed. This information indicates the system has included a software and reading process section to control and access the portion of the compressed file and each code word in the portion of the

compressed file (col. 7, lines 10-35). The system also decompress a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

Malik also teaches the method 100 compresses a data set. The data set is broken into segments, via step 102. In a preferred embodiment, each segment has the same length. A unique code word is generated for each unique segment of the segments, via step 104. As more code words are generated, the length of each code word may increase when all combinations for a particular length code word have been used. In a preferred embodiment, the length of each code word is increased by a small integral number of bits, for example four bits, each time longer code words become needed. Also in a preferred embodiment, step 104 includes generating a dictionary indicating the correspondence between each unique code word and the unique segment it represents. A representation for

each of the segments is provided, via step 106. The above information shows that each segment of a data set is performed using the same method 100. The method 100 is represented as the same compressing process (col. 5, lines 5-21).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of storing compressed file includes a code word for each segment or subsegment into a floppy disk and using the method 100 to compress segments of data set to Burrows's system in order to allow users to search/retrieve compressed file quickly without downloading compressed file from Internet, save all information when the system is corrupted and to save time for compressing files within a system.

As to claims 30, 37 and 45, Burrow does not explicitly teach the claimed limitation "wherein said expanding process means causes the computer to carry out expansion by a driver software for the recording medium, said driver software being used for making access to the recording medium". Malik teaches decompressing a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the

system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of decompressing a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set to Burrows's system in order to allow a user can read or view a portion of data.

As to claims 31, 38 and 46, Burrow does not explicitly teach the claimed limitation "wherein the driver software for the storage medium is independent of an application software of the computer". Malik teaches decompressing only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an independent application software to provide

expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of decompressing a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set to Burrows's system in order to allow a user can read or view a portion of data.

As to claims 39, 40 and 47, Burrows teaches the claimed limitations:

"address parameters, and a compressed file, and original file being divided into a plurality of sections" as parsing pages and the index data structure which is compressed, into portions. Wherein Pages are associated with addresses. Thus when parsing pages, the system has included address parameters (col. 3, line 65, col. 4, lines 35-37; col. 12, lines 20-25, fig. 9);

"compressed for each section using the plurality of compression parameters so as to obtain a plurality of section data forming the compressed file" as compressing data structure which has plurality of portions by using Huffman or Lempel-Ziv codings to form compressed file (col. 12, lines 10-20; col. 14, lines 12-17);

"address information corresponding to a plurality of sections" as each page of database has an address i.e., URL. To retrieve pages, a user need to enter addresses

of web pages. This information shows that the system has included address parameters to retrieve pages corresponding to entered addresses by a user. Pages are represented as sections. URL is represented as address information (col. 3, lines 50-67);

"wherein each of the sections comprises both data and index data, wherein the index data is different from and corresponds to the data" as in order to identify pages of interest among the millions of pages which are available on the Web, a search engine 140 is provided. The search engine 140 includes means for parsing the pages, mans for indexing the parsed pages, means for searching the index, and means for presenting information about the pages 200 located. The index data structure includes a plurality of entries. Each of entries is corresponds to occurrences of the unique portions of pages in the database. This information shows that each index entry is different from and corresponds to each portion of pages (col. 3, lines 60-67; col. 2, lines 7-12);

"and the data comprises at least one of text data, image data, and audio data, and the index data is used to search or retrieve the data" as each index entry includes a word entry if the indeed entry represents a compressed encoding of a unique portion of information sequentially parsed from the database. Pages or information include textual information, graphics, audio signals. This information means that each portion of information or pages includes information and the index entry (col. 2, lines 14-18; col. 3, lines 3, lines 40-45).

Burrows does not explicitly teach the claimed limitations "the same compressing process for each section; reading process section control an access to a recording medium which stores a plurality of compression parameters and a compressed file in response to a read request from an application software; and an expanding process section which expands the section data read from the storage medium by said reading process section using the compression parameters corresponding to the section data and to supply expanded data to the application software".

Malik teaches storing compressed file which contains each code word in the portion of the compressed file in storage 16. The appropriate portions of the compressed file are then accessed. This information indicates the system has included a software and reading process section to control and access the portion of the compressed file and each code word in the portion of the compressed file (col. 7, lines 10-35). The system also decompress a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

Malik also teaches the method 100 compresses a data set. The data set is broken into segments, via step 102. In a preferred embodiment, each segment has the same length. A unique code word is generated for each unique segment of the segments, via step 104. As more code words are generated, the length of each code word may increase when all combinations for a particular length code word have been used. In a preferred embodiment, the length of each code word is increased by a small integral number of bits, for example four bits, each time longer code words become needed. Also in a preferred embodiment, step 104 includes generating a dictionary indicating the correspondence between each unique code word and the unique segment it represents. A representation for each of the segments is provided, via step 106. The above information shows that each segment of a data set is performed using the same method 100. The method 100 is represented as the same compressing process (col. 5, lines 5-21).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of storing compressed file includes a code word for each segment or subsegment into a floppy disk and using the method 100 to compress segments of data set to Burrows's system in order to allow users to search/retrieve compressed file quickly without downloading compressed file from Internet, save all information when the system is corrupted and to save time for compressing files within a system.

As to claims 40 and 47, Burrows teaches the claimed limitations:

"address parameters, and a compressed file, and original file being divided into a plurality of sections" as parsing pages and the index data structure which is compressed, into portions. Wherein Pages are associated with addresses. Thus when parsing pages, the system has included address parameters (col. 3, line 65, col. 4, lines 35-37; col. 12, lines 20-25, fig. 9);

"compressed for each section using the plurality of compression parameters so as to obtain a plurality of section data forming the compressed file" as compressing data structure which has plurality of portions by using Huffman or Lempel-Ziv codings to form compressed file (col. 12, lines 10-20; col. 14, lines 12-17);

"address information corresponding to a plurality of sections" as each page of database has an address i.e., URL. To retrieve pages, a user need to enter addresses of web pages. This information shows that the system has included address parameters to retrieve pages corresponding to entered addresses by a user. Pages are represented as sections. URL is represented as address information (col. 3, lines 50-67);

"wherein each of the sections comprises both data and index data, wherein the index data is different from and corresponds to the data" as in order to identify pages of interest among the millions of pages which are available on the Web, a search engine 140 is provided. The search engine 140 includes means for parsing the pages, mans for indexing the parsed pages, means for searching the index, and means for presenting information about the pages 200 located. The index data structure includes a plurality of entries. Each of entries is corresponds to occurrences of the unique

portions of pages in the database. This information shows that each index entry is different from and corresponds to each portion of pages (col. 3, lines 60-67; col. 2, lines 7-12);

"and the data comprises at least one of text data, image data, and audio data, and the index data is used to search or retrieve the data" as each index entry includes a word entry if the indeed entry represents a compressed encoding of a unique portion of information sequentially parsed from the database. Pages or information include textual information, graphics, audio signals. This information means that each portion of information or pages includes information and the index entry (col. 2, lines 14-18; col. 3, lines 3, lines 40-45).

Burrows does not explicitly teach the claimed limitations "reading process section control an access to a recording medium which stores a plurality of compression parameters and a compressed file in response to a read request from an application software; and an expanding process means which expands the section data read from the storage medium by said reading process section using the compression parameters corresponding to the section data and to supply expanded data to the application software".

Malik teaches storing compressed file which contains each code word in the portion of the compressed file in storage 16. The appropriate portions of the compressed file are then accessed. This information indicates the system has included a software and reading process section to control and access the portion of the compressed file and each code word in the portion of the compressed file (col. 7, lines

10-35). The system also decompress a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set. Once the source data file has been compressed using the conventional method, the conventional compressed file can be stored, for example on the storage 16 or storage 14. The above information shows that to decompress a portion of the data by using code words, the system has to read the data from compressed file, which is stored in storage 14 such as a floppy disk. The system has included an application software to provide expanded portion data it before allowing a user access the desired data (col. 11, lines 5-20; col. 3, lines 10-35).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Malik's teaching of accessing stored compressed file storing compressed file in storage 16 and decompressing a only portion of the representation of the data to allow a user access to a desired data set, the portion of the representation of the data including only a portion of the plurality of code word corresponding to at least one segment including the desired data set to Burrows's system to allow a user to search/retrieve a desired data set in a record medium quickly and to check statue of data to be searched/retrieved during reading data.

4. Claims 2, 8, 14, 20, 26, 33, and 41 is rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows in view of Malik and further in view of Reynar et al (USP 5951623).

As to claims 2, 8, 14, 20, 26, 33 and 41, Burrows disclose the claimed limitation subject matter in claim 1, 7, 13, 19, 25, 32 and 40, except the claimed limitation "wherein said compressing step uses the plurality of compression parameters based on a distribution of an appearing frequency for each word within said file". Reynar teaches that once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques (col. 14, lines 13-18).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Reynar's teaching of once the most frequent words for each type of data are discovered, a dictionary for each type of data can be created. This dictionary, in conjunction with an initially empty dictionary, to which new word will be added, will then be used to perform Lempelziv compression using conventional techniques to Burrows's system in order to save memory space.

5. Claims 3, 9, 15, 21, 27, 34, 39, and 42, are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows in view of Malik and further in view of Benveniste (USP 6349372).

As to claims 3, 9, 15, 21, Burrows discloses the claimed limitation subject matter in claims 1, 13, 19, except the claimed limitation "wherein said compressing step includes a flag which indicates non-compressed data in control information of a certain section, ...in a form of compressed data than the non-compressed data". Benveniste

teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache (col. 5, lines 62-67; col. 6, lines 1-10).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed. The directory entry formats may be extended so as to indicate the status of a segment with respect to its membership in the virtual uncompressed cache to Burrows's system to check status of segments before compressing or reading.

As to claims 27, 34 and 42, Burrows teaches the claimed limitation "wherein the compressed file further includes non-compressed section data of a certain section" as (col. 3, lines 25-40). Burrows does not explicitly teach the claimed limitation "a non-compression flag which indicates that the certain .....when the non-compression flag indicates a non-compressed state of the section data of the certain section read from the storage medium by said reading step". However, Burrows teaches compressing portions of data file (col. 3, lines 30-40). Benveniste teaches that flag bit 302 of fig. 3 could be interpreted, when set and when the segment is marked as uncompressed, when set and when the segment is marked as uncompressed (col. 5, lines 62-67).

Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof (col. 17, lines 55-67).

It would have been obvious to a person of a ordinary skill in the art at the time the invention was made to apply Benveniste's teaching of flag bit indicates uncompressed segments and Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof to Burrows 's system in order to check status of portions of data file during expanding or compressing data file.

6. Claims 5, 11, 17, 23, 29, 36, 43 and 44 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burrows in view of Malik and further in view of Ikegami (USP 6112208).

As to claims 5, 11, 17 and 23, Burrows discloses the claimed limitation subject matter in claim 1, 13, 19, except the claimed limitation "wherein said compressing adds end.....a flag indicating that the end information is deleted....other than last section". Ikegami teaches that in the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an

occurrence probability table that represents the occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 1, lines 45-60; col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of the Huffman coding method, all pieces of input data are read. A data file is composed of binary data of 0s and 1s can be represented as symbol string in such as manner that each byte of the data file is correlated with one character symbol. The occurrence probability of each symbol in the input data is obtained. Next, an occurrence probability table that represents the occurrence probability of each symbol is generated. Next, a code is added to each symbol so as to identify the symbol in a predetermined method. When the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Burrows's system in order to check status of portions of data file during expanding a file.

As to claim 29, 36, Burrows discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Burrows's system in order to compress data following correct portions.

As to claim 43, Malik discloses the claimed limitation subject matter in claim 1, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". However, Malik teaches compressing portions of data file. Ikegami teaches that when the data expanding process is started

up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Burrows's system in order to check status of portions of data file during expanding.

As to claim 44, Burrows disclose the claimed limitation subject matter in claim 40, except the claimed limitation "wherein a delete flag which indicates that end information indicating an end of each section is not .... said reading step reads the section data by judging a last section based on the delete flag". Ikegami teaches that when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 (col. 17, lines 55-67; col. 18, lines 5-15).

It would have been obvious to a person of an ordinary skill in the art at the time the invention was made to apply Ikegami's teaching of when the data expanding process is started up, the flow advances to step S40. At step S40, the bit width 3bits of an on-count at the beginning of the compressed data 25 is extracted from the file of the compressed data 25. 0 is set to a flag eof. The symbol corresponding to the first bit with 1 that has been deleted in the bit map of the compress data 25 to Burrows's system in order to compressing data file faster.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure

Basin et al (US 2002/0120639).

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Cam Y T Truong whose telephone number is (571) 272-4042. The examiner can normally be reached on Monday to Firday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, John Breene can be reached on (571) 272-4107. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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Patent Examiner
Art Unit 2162
1/18/2005